

INTRODUCTION

The Whitworth Quick Return Mechanism, "MBM2", designed by EDIBON, is an example of a quick-return mechanism. As the name implies, quick-return mechanisms are designed so that one link allows slow motion in one direction of travel and fast motion in the opposite direction.

Frequently, the link is a reciprocating slider and a typical application is in a shaper type machine tool, where the feed of the cutting tool is slow on its forward travel and fast on the return stroke.

GENERAL DESCRIPTION

The Whitworth Quick Return Mechanism, "MBM2", is a mechanism able to transform circular movement into reciprocating movement. It is made of aluminum and consists of a rotary element, called crank, with a graduated disk, connected to a rigid bar, called connecting rod. When rotating the crank, the connecting rod moves back and forward. The rotation motion of a crank or crankshaft causes a rectilinear reciprocating motion of a piston or plunger.

The forward reciprocating motion is at a different rate than the backward stroke.



ISO 9001: Quality Management (for Design, Manufacturing, Commercialization and After-sales service)



European Union Certificate (total safety)



Certificates ISO 14001 and ECO-Management and Audit Scheme (environmental management)



Certificate and Worlddidac Member

SPECIFICATIONS

Bench-top unit.

Anodized aluminum frame and panels made of painted steel.

Main metallic elements made of stainless steel.

This unit is composed of:

Rotary element (crank) with a graduated disc to read the angle.

Rigid bar (connecting rod) with a millimeter scale to measure the linear motion.

Two rigid bar for transfer motion.

All axles are equipped with ball bearings.

Manuals: This unit is supplied with the following manuals: Required services, Assembly and Installation, Starting-up, Security, Maintenance and Practices manual.

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- To demonstrate the action of a simple Whitworth quickreturn mechanism.
- 2.- Graphic determination of the relationship between the linear displacement of the connecting rod and the angular displacement of the input crank.
- 3.- More exercises and practices may include the determination of the velocity and acceleration of the connecting rod by graphical differentiation and comparison with the values obtained by velocity and acceleration diagrams.

DIMENSIONS AND WEIGHTS

MBM2:

- Dimensions: 400 x 300 x 100 mm approx. (15.74 x 11.81 x 3.93 inches approx.)

- Weight: 3 Kg approx. (6.61 pounds approx.)

MBM2/ICAI. Interactive Computer Aided Instruction Software System:



With no physical connection between unit and computer, this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

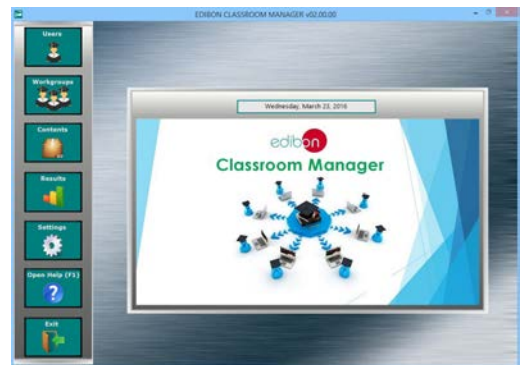
Instructor Software

- ECM-SOF. EDIBON Classroom Manager (Instructor Software).

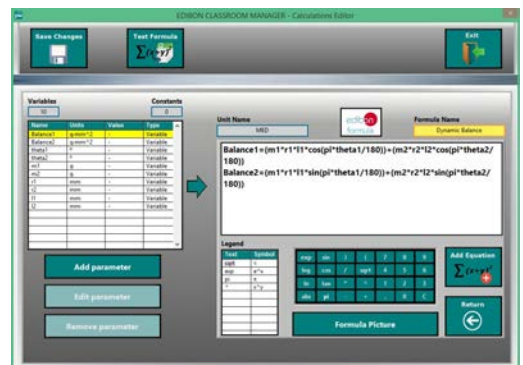
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc... so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

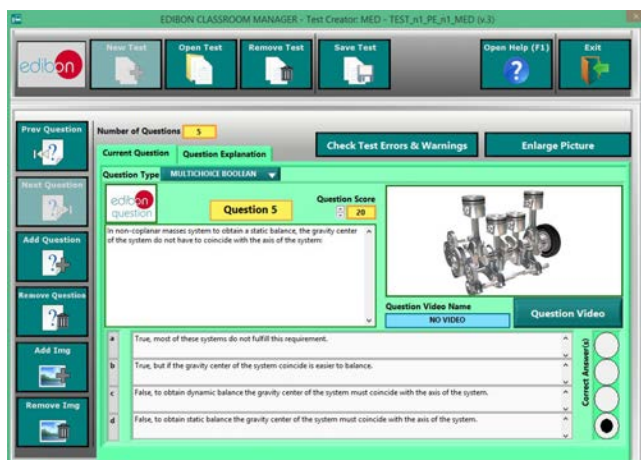
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- Updatable Contents.
- Report generation, User Progression Monitoring and Statistics.



ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen



ECAL. EDIBON Calculations Program Package - Formula Editor Screen



ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question



ERS. EDIBON Results & Statistics Program Package - Student Scores Histogram

Optional
Student Software

- **ESL-SOF. EDIBON Student Labsoft (Student Software).**

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

- Student Log-In & Self-Registration.
- Existing Tasks checking & Monitoring.
- Default contents & scheduled tasks available to be used from the first session.
- Practical Exercises accomplishment by following the Manual provided by EDIBON.
- Evaluation Methods to prove your knowledge and progression.
- Test self-correction.
- Calculations computing and plotting.
- Equation System Solver Engine.
- User Monitoring Learning & Printable Reports.
- Multimedia-Supported auxiliary resources.

For more information see ICAI catalogue. Click on the following link:

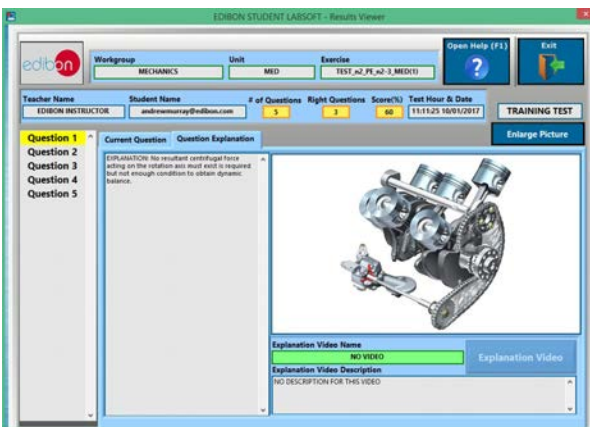
www.edibon.com/en/files/expansion/ICAI/catalog



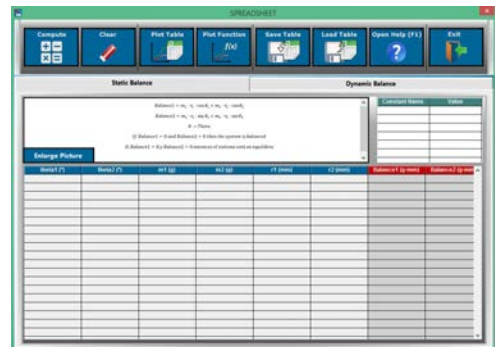
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



EPE. EDIBON Practical Exercise Program Package Main Screen



ERS. EDIBON Results & Statistics Program Package - Question Explanation



ECAL. EDIBON Calculations Program Package Main Screen

* Specifications subject to change without previous notice, due to the convenience of improvement of the product.



C/ Del Agua, 14. Polígono Industrial San José de Valderas.
28918 LEGANÉS. (Madrid). ESPAÑA - SPAIN.
Tel.: 34-91-6199363 Fax: 34-91-6198647
E-mail: edibon@edibon.com Web: www.edibon.com

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REPRESENTATIVE:

